

## Notes and new taxa in the Australian genus *Myriocephalus* (Asteraceae: Gnaphalieae)

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### Abstract

Wilson, Paul G. Notes and new taxa in the Australian genus *Myriocephalus* (Asteraceae: Gnaphalieae). *Nytsia* 14(3): 437–444 (2002). Three new species of *Myriocephalus* Benth. are described: *M. biflorus* Paul G. Wilson, *M. scalpellus* Paul G. Wilson and *M. squamatus* Paul G. Wilson. One new combination, *Myriocephalus oldfieldii* (F. Muell.) Paul G. Wilson, is made and the name lectotypified, while the difference between this taxon and the superficially similar *M. nudus* A. Gray is clarified. A description and illustration are provided for *M. nudus*, which may be extinct as it has not been collected since the mid 19th century.

### Introduction

The genus *Myriocephalus* Benth. (Asteraceae: Gnaphalieae), erected by Bentham (1837), was based solely on a collection of *M. appendiculatus* Benth., a species in which a dense compound head is surrounded by a general involucre made up of prominent bracts. Bentham (1867) later expanded his concept of the genus to include other species of the subtribe Angianthinae Benth., in which this general form of the inflorescence is apparent. However, as has been shown by Short *et al.* (1989) and Short (1993, 2000), the circumscription adopted by Bentham is too simplistic and produces an unnatural assemblage of taxa, for which reason Short proposed the transfer of several species to other genera. His circumscription of *Myriocephalus* is accepted in this paper.

During the preparation of a treatment of the genus for the “Flora of Australia” it became evident that the current delineation of some species of *Myriocephalus* was too broad and that this had obscured the presence of other taxa. Three of these taxa are here recognised as new species while a fourth corresponds to the taxon described by Mueller (1863) under the name *Lauprochlaena oldfieldii*.

### Taxonomy

#### Size and distribution of *Myriocephalus*

Of the 14 species currently recognised in *Myriocephalus*, ten are endemic to Western Australia, one is common to Western Australia, South Australia and the Northern Territory, while the other three

are entirely extra-Western Australian. Species occurring only in eastern Australia are *M. pluriflorus* (J. Black) D. Cooke, *M. rhizocephalus* (DC.) Benth. and *M. squamatus*. Western Australian species that are not mentioned except for their inclusion in the key are *M. gascoynensis* P.S. Short, *M. helichrysoides* A. Gray, *M. occidentalis* (F. Muell.) P.S. Short, *M. pygmaeus* (A. Gray) P.S. Short, *M. rudallii* (F. Muell.) Benth. and *M. walcottii* P.S. Short.

### Key to species of *Myriocephalus*

*Notes.* Abbreviations used in this key for the States and Territories of Australia are: NSW – New South Wales, NT – Northern Territory, Qld – Queensland, SA – South Australia, Vic. – Victoria and WA – Western Australia.

1. Corolla 5-lobed
  2. Bracts of general involucre with milk-white tips
    3. Plant glabrous; leaves linear, 2–4 cm long, with rounded apex.  
(South-west WA) ..... **M. helichrysoides**
    - 3: Plant variably woolly; leaves linear, 1–3 cm long, acute to acuminate
      4. Cypsela narrowly cylindrical, without a narrow sterile base; pappus absent. (South-west WA) ..... **M. appendiculatus**
      - 4: Cypsela narrowly top-shaped at base; pappus absent, or a scale, or of 1–3 bristles.
        5. Pappus of 1–3 bristles or absent. (Inland WA & SA, southern NT) ..... **M. rudallii**
        - 5: Pappus a broad scale. (Central and north-west SA) ..... **M. squamatus**
  2. Bracts of general involucre with hyaline, pale fawn, straw-coloured, or dirty white tips
    6. Stem simple, erect, not branched; plant glandular puberulous and cottony; pappus absent. (South-west WA) ..... **M. nudus**
    - 6: Plant branched, usually spreading from base, cottony or woolly but without glandular hairs; pappus absent or present.
      7. Cypsela narrowly cylindrical or narrowly ellipsoid (sometimes with a very short turbinate base)
        8. Bracts of general involucre with a pale fawn, or straw-coloured, or very pale dirty white hyaline apex; pappus absent or of 1(2) slender bristles
          9. Capitula with 4 florets. (Widespread in eastern WA) ..... **M. oldfieldii**
          - 9: Capitula with 2 florets. (South-east WA) ..... **M. biflorus**
        - 8: Bracts of general involucre with a glossy transparent hyaline apex; pappus a single firm bristle
          10. Florets 5 per capitulum; twin-hairs on cypsela minutely bidentate. (Carnarvon district, WA) ..... **M. gascoynensis**
          - 10: Florets 4 per capitulum; twin-hairs on cypsela with an anchor-shaped tip. (Pilbara region, WA) ..... **M. scapellus**
      - 7: Cypsela narrowly top-shaped with a narrow sterile base
        11. Pappus absent. (Murchison district, WA) ..... **M. walcottii**
        - 11: Pappus a short erose scale. (North-western SA) ..... **M. squamatus**
- 1: Corolla 3- or 4-lobed
  12. Capitular bracts noticeably cartilaginous towards base
    13. Capitula mostly 1-flowered; achenial hairs slender and minutely bidentate. (SA, NSW, & Vic.) ..... **M. rhizocephalus**

- 13: Capitula mostly 2- or 3-flowered; achenial hairs sub-clavate or rounded. (Southern WA) ..... **M. occidentalis**
- 12: Capitular bracts not cartilaginous towards base
- 14: Pappus bristle absent or solitary and less than half length of corolla. (Central and southern WA) ..... **M. pygmaeus**
- 14: Pappus bristles 1 or 2,  $\pm$  equal to corolla. (SA, NSW, & Qld) ..... **M. pluriflorus**

**Myriocephalus biflorus** Paul G. Wilson, *sp. nov.*

Herba glabrescentes multicaulis ad 15 cm alta. Folia glanduloso punctata, inferiora linearia vel anguste oblonga ad 3 cm longa, superiora anguste oblonga, 5–10 mm longa, basi auriculata vel semi-amplexicaulia. Capitula-composita hemisphaerica, 10–15 diam. Involucrum-generale multiseriatum; bracteae numerosae anguste oblongae, c. 3 mm longae, hyalinae, sparse gossypinae. Capitula numerosa; bracteae capituli 3, anguste oblongo-obovatae, apicibus rotundatis, hyalinis. Flosculi 2; corolla anguste turbinata, c. 1.2 mm longa, breviter 5-lobata. Achenium cylindricum basi rotundatum, modice hirsutum pilis minute bidentatis c. 0.1 mm longis. Pappus absens.

*Typus*: south of Mt Ragged, Cape Arid National Park, Western Australia, 5 December 1971, *R.D. Royce* 10159 (*holo.*: PERTH 00528242).

Multistemmed *herb* to 15 cm high; stems slender, glabrous or with a few cotton-like hairs. *Leaves* glabrous or with a few cotton-like hairs, somewhat glandular punctate; lower leaves linear, to 3 cm long; upper leaves narrowly oblong, 5–10 mm long, sometimes broadened and auriculate or semi-amplexicaul at base, obtuse to rounded at apex. *Compound head* hemispherical, 10–15 mm diam. *General involucre* multiseriate; bracts numerous, narrowly oblong to obovate, obtuse, c. 3 mm long, hyaline, sparsely cottony, with linear stereome and colourless hyaline lamina. *Capitula* numerous; capitular bracts 3, narrowly oblong-obovate with rounded hyaline tips. *Florets* 2. *Corolla* turbinated above, c. 1.2 mm long, shortly 5-lobed, yellow. *Achene* cylindrical, rounded at base, truncate at apex, 1 mm long, moderately hirsute with slender straight very minutely bidentate twin hairs c. 0.1 mm long. *Pappus* absent.

*Other specimen examined*. WESTERN AUSTRALIA: 20 km W of Mt Ragged, *E. Wittwer* 1902 (PERTH).

*Distribution and habitat*. Only recorded from the Cape Arid National Park in the Roe and Eyre botanical Districts (Beard 1980), south-eastern Western Australia. Growing in red silty loam around granite rocks (*vide* Royce *in sched.*).

*Flowering period*. The two specimens examined were collected in flower in either November or December.

*Etymology*. The specific epithet is Latin for “two-flowered”.

*Conservation status*. Conservation Codes for Western Australian Flora: Priority Two. The two known collections were gathered in a large national park and it is therefore unlikely that the species is under threat.

*Affinities*. This species is clearly similar to *Myriocephalus oldfieldii*, *q.v.*, and differs most noticeably in having only two florets and three capitular bracts in each capitulum; in *M. oldfieldii* there are four florets and four bracts per capitulum.

**Myriocephalus nudus** A. Gray, *J. Bot. Kew Gard. Misc.* 3: 174 (1851). – *Hirnellia nuda* (A. Gray) Kuntze, *Rev. Gen. Pl.* 1: 346 (1891). *Type*: Swan River, Western Australia, *J. Drummond s.n.* (syn: K photograph seen); same locality, *J. Drummond* 53 (syn: K photograph seen).

Erect herb, minutely glandular-puberulous and sparsely cottony; stem simple, to 20 cm high. *Leaves* linear, broadened at base, 5–15 mm long; uppermost smaller with hyaline margins and tips. *Compound head* depressed globose, to 15 mm diam. *General involucre* multiseriate; bracts numerous, with narrowly oblong sparsely cottony claw and short pale brown rounded lamina, in all *c.* 3 mm long. *Capitula* numerous; capitular bracts 4, narrowly oblong-obovate with rounded hyaline tips and green linear stereome. *Florets* 4. *Corolla* tubular below, narrow-turbinate above, *c.* 2 mm long, shortly 5-lobed. *Achene* narrowly cylindrical, *c.* 1 mm long, very sparsely hirsute with slender anchor-tipped twin hairs, these absent from apex. *Pappus* absent. (Figure 1A–C)

*Other specimens examined.* WESTERN AUSTRALIA: Nov. Holl. aust. occ., [c. 1844], *J. Drummond* 388 (W); Swan River, *J. Drummond* 283 (W).

*Distribution and habitat.* Evidently once found in the Perth district of Western Australia, but not collected since about 1850. The few collections seen lack precise locality data and field notes but they appear to have been gathered from muddy situations and were presumably growing in winter wetlands.

*Conservation status.* Conservation Codes for Western Australian Flora: Priority One. This species may be extinct, and urgent survey is required.

*Affinities.* *Myriocephalus nudus* has not been collected since the middle of the 19th century and no specimens are present in the Western Australian Herbarium. Because of this its identity has been misunderstood and the name has been applied to a plant here recognised as *M. oldfieldii*. *Myriocephalus nudus* differs most noticeably from the latter in having a glandular puberulous simple stem and in having achenes with anchor-tipped twin-hairs.

**Myriocephalus oldfieldii** (F. Muell.) Paul G. Wilson, *comb. nov.*

*Lamprochlaena oldfieldii* F. Muell., *Fragm.* 3: 157 (1863). – *Myriocephalus nudus* var. *oldfieldii* (F. Muell.) Benth., *Fl. Austral.* 3: 558 (1867). *Type citation*: “Ad flumen Murchison et sinum Champion Bay. Walcott et Oldfield”. *Type*: Murchison River, Western Australia, *A. Oldfield* (lecto: MFL 542208, here designated). *Excluded syntypes*: Oolinyarra, Murchison River, Western Australia, *A. Oldfield* (K, photo seen); Champion Bay, Western Australia, *A. Oldfield* (K, photo seen).

*Herb* to 15 cm high, branching usually near base. *Leaves* linear below to oblong acuminate above, somewhat auriculate at base, often crinkled, 5–20 mm long, cottony. *Compound head* depressed globose, 6–20 mm diam. *General involucre* multiseriate; bracts narrowly oblong, *c.* 3 mm long, hyaline, cottony, with linear stereome and pale fawn hyaline lamina. *Capitula* numerous; capitular bracts 4, narrowly oblong-obovate with rounded hyaline tips. *Florets* 4. *Corolla* turbinate above, 1.5–2 mm long, shortly 5-lobed, yellow. *Achene* cylindrical, rounded or shortly turbinate at base, *c.* 1 mm long, glabrous or sparsely to densely hirsute with slender bidentate twin hairs to 0.2 mm long these longer and erect around apex of achene. *Pappus* absent or of 1 (rarely 2) slender scabrid or smooth bristle(s) ± equal to corolla. (Figure 1D–F)

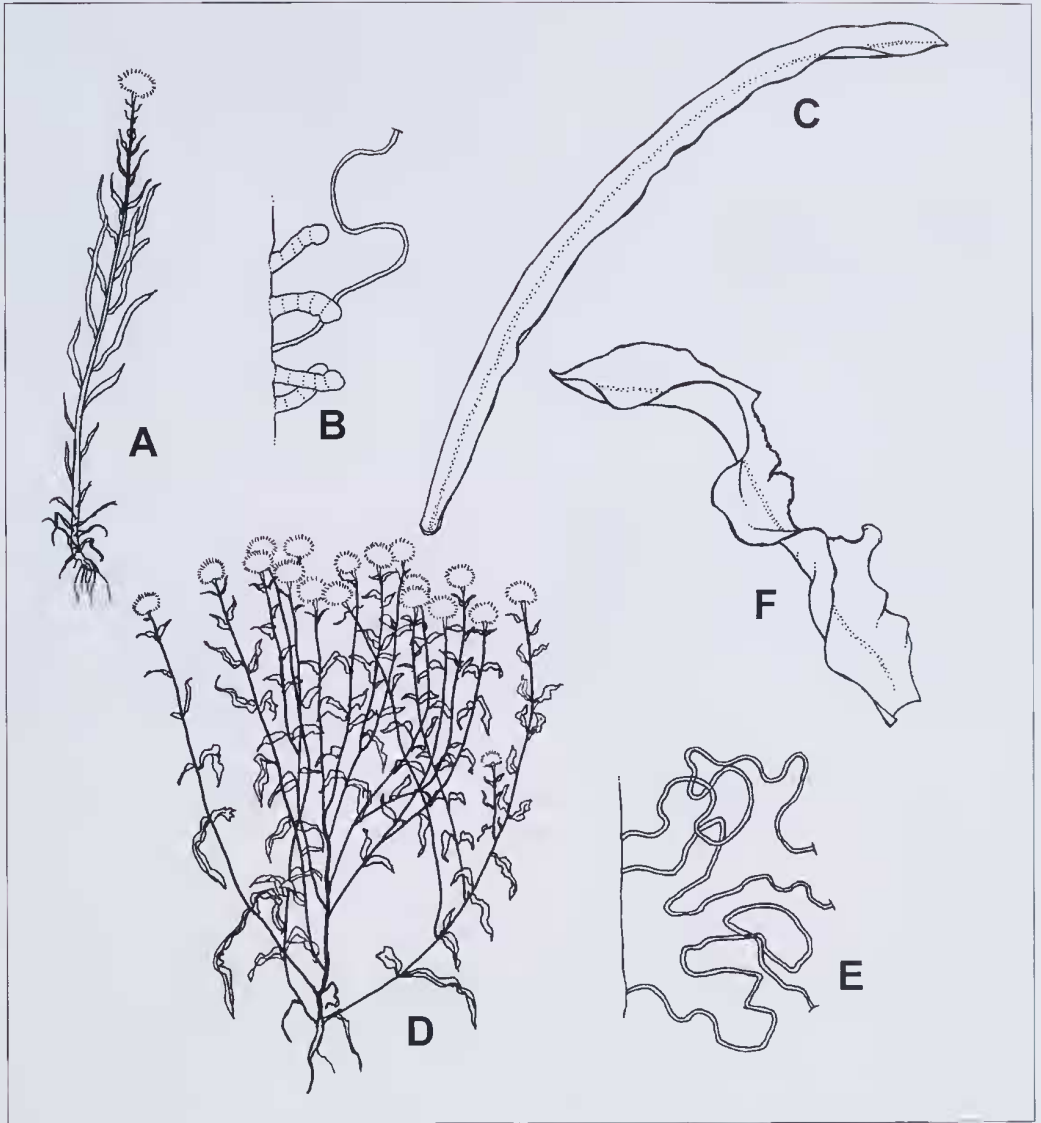


Figure 1. A-C. *Myriocephalus nudus*. A - habit (x0.35), B - hairs on stem (x200), C - leaf (x5); D-F. *Myriocephalus oldfieldii*. D - habit (x0.35), E - hairs on stem (x200), F - leaf (x5). Drawn by Annemarie Wilson from *J. Drummond* 388 (A-C) and *D. & B. Bellairs* 1118B (D-F).

*Selected specimens examined.* WESTERN AUSTRALIA: Galena Bridge, North West Coastal Highway, *D. & B. Bellairs* 1118B (PERTH); Jingemarra Station, *R.J. Cranfield* 6129 (PERTH); Rocky Pool, Gascayne River, *K.F. Kenneally* 4658 (PERTH); 20 km W of Mt Ragged, *E. Wittwer* 1902 (PERTH).

*Distribution and habitat.* Widespread in Western Australia from the Moore River north to Onslow, east to Leonora, and south to Norseman. Usually found along creek beds or in seasonally wet clay pans.

*Flowering period.* This species has been collected in flower in all months except for March and presumably responds to local rainfall.

*Conservation status.* This species is widespread and is neither rare nor threatened.

*Affinities.* For comparison with *M. nudus* see under that species.

*Notes.* The name *M. oldfieldii*, as used here, includes a number of variants that differ in leaf morphology, in degree and type of achene pubescence, and in the presence or absence of a pappus. However, these morphological characters appear to be rather randomly distributed which creates difficulties when attempting to circumscribe infraspecific taxa. The lectotype is a variant with a glabrous epappose achene.

**Myriocephalus scalpellus** Paul G. Wilson, *sp. nov.*

Herba multicaulis ad 10 cm alta. Rami dense gossypini. Folia inferiora linearia, superiora oblonga 5–20 mm longa, modice gossypina. Capitula-composita depresso-globosa, ad 20 mm diam. Involucrum-generale multiseriatum; bracteae oblongae ad obovatae, c. 3 mm longae, hyalinae, sparse gossypinae. Capitula numerosa; bracteae capituli 4, anguste oblongo-obovatae, apicibus rotundatis, hyalinis. Flosculi 4; corolla anguste turbinata, 1.5–2 mm longa, breviter 5-lobata. Achenium anguste cylindricum, basi brevi sterili turbinata, ad 1.8 mm longum, sparse hirsutum, pilis firmis 0.3 mm longis apice ancoramorphis. Pappi setae 1 (vel 2 ad basim junctae) lineari-lanceolatae, solidae, basi latiores, cartilaginei.

*Typus:* cast of Roy Hill [precise locality withheld], Western Australia, 4 September 1977, P.S. Short 499 (*holo:* AD 97743151; *iso:* PERTH 05496683).

*Herb* to 10 cm high, branching near base; branches densely cottony. *Leaves* linear below to oblong above, somewhat auriculate at base and crinkled, 5–20 mm long, moderately cottony. *Compound head* depressed globose, to 20 mm diam. *General involucre* multiseriate; bracts oblong to obovate, c. 3 mm long, hyaline, sparsely cottony, with linear sterome and hyaline obtuse to rounded tip. *Capitula* numerous; capitular bracts 4, narrowly oblong-obovate with rounded hyaline tips. *Florets* 4. *Corolla* turbinate above, 1.5–2 mm long, shortly 5-lobed, yellow. *Achene* narrowly cylindrical, shortly turbinate at base, to 1.8 mm long, sparsely hirsute with slender firm twin hairs c. 0.3 mm long that have anchor-shaped tips. *Pappus* of 1 firm bristle (or 2 united at base), linear-lanceolate, sparsely scabrid, slightly clawed at apex and broadening at base,  $\pm$  equal to corolla.

*Distribution and habitat.* Only known from the type locality, which is east of Roy Hill in the Pilbara region of Western Australia, growing in a clay depression on a flood plain.

*Flowering period.* The only collection seen was collected in flower in early September.

*Conservation status.* Conservation Codes for Western Australian Flora: Priority One. Although this species is only known from one locality, the area involved is not under threat.

*Etymology.* The specific epithet *scalpellus* is Latin for lancet and refers to the appearance of the pappus bristle.

*Notes.* Evidently closely related to *M. oldfieldii* but differs from that species in having a firm lanceolate pappus bristle and long rigid achenial twin-hairs that are anchor-shaped at their tip.

***Myriocephalus squamatus*** Paul G. Wilson, *sp. nov.*

Herba gossypina multicaulis ad 10 cm alta. Folia integra linearia vel anguste oblonga 10–20 mm longa, glanduloso punctata. Capitula-composita depresso-globosa, 10–15 diam. Involucrum-generale multiseriatum; bracteae anguste oblongae, c. 3 mm longae, hyalinae, gossypinae, lamina pallide fusca vel sordide alba. Capitula numerosa; bracteae capituli 4, anguste oblongae, apicibus rotundatis, hyalinis. Flosculi 4; corolla anguste turbinata, c. 2 mm longa, breviter 5-lobata. Achenium anguste cylindricum basi brevi sterili turbinata. Pappus squamam crustaceam erosam 0.1–0.2 mm longam.

*Typus:* between Oodnadatta and William Creek, on the Oodnadatta track, South Australia, 1 November 1989, B. Nordenstam & A. Anderberg 976 (*holo:* AD 99149270; *iso:* MEL 1593939, S *n.v.*).

Sparsely cottony herb to 10 cm high, branching at base. Leaves alternate, entire, linear to narrowly oblong or narrowly obovate, narrowed at base, 10–20 mm long, gland-dotted. Compound heads depressed globose, 10–15 mm diam., subtended by several leaves. General involucre equal to head, multiseriate; bracts narrowly oblong, c. 3 mm long, hyaline, cottony, with pale brown or dirty white rounded lamina c. 0.5 mm long. Capitula numerous; capitular bracts 4, narrowly oblong-cuneate, c. 3 mm long, with rounded hyaline tips. Florets 4. Corolla narrowly cylindrical below, narrowly turbinate above, c. 2 mm long, shortly 5-lobed, yellow. Achene narrowly cylindrical with short sterile turbinate base, 1–1.5 mm long, very sparsely hirsute with slender bidentate twin hairs. Pappus a broad erose scale 0.1–0.2 mm long. (Figure 2)

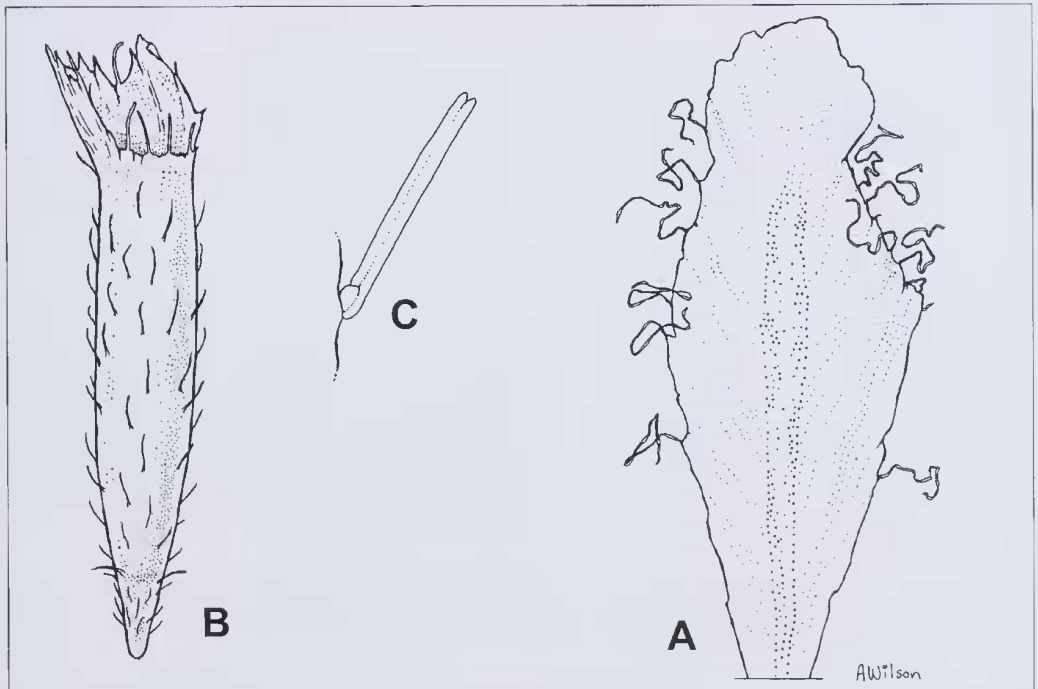


Figure 2. *Myriocephalus squamatus*. A - involucre bract (x30), B - achene (x70), C - achenial hair (x350). Drawn by Annemarie Wilson from B. Nordenstam & A. Anderberg 976.

*Other specimens examined.* SOUTH AUSTRALIA: 30 km S of Mt Willoughby homestead, *F.J. Badman* 1075 (AD); 30 km W of William Creek, *F.J. Badman* 1280 (AD); Stuart Range, *C. French* (MEL); Evelyn Downs Station, 25 Oct. 1955, *E.H. Ising* (AD); 5 km S of Cadney homestead, *B. Nordenstam & A. Anderberg* 881 (AD); Lagoon Waterhole, *A.C. Robinson* 886 (AD); Commonwealth Hill Station, *D.E. Symon* 3381A (AD); Durkin Out Station, *J.Z. Weber* 2828 (AD).

*Distribution and habitat.* Found in north-western South Australia, growing on clay pans and mulga flats.

*Flowering period.* Material in flower has been collected from September to November.

*Conservation status.* Evidently a common and widespread species that is not endangered.

*Etymology.* The specific epithet *squamatus* refers to the pappus which takes the form of a *squama* or scale.

*Affinities.* *Myriocephalus squamatus* is most similar to *M. rudallii* Benth., with which it has been confused; it differs from the latter in having a pale brown or dirty white (not milky white) apex to the bracts of the general involucre and in having a short scale-like pappus.

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